| Work Orden                     |              |                                     | *109621*                   |                                 |               |        |              |               |              |          | Page 1           |                |  |
|--------------------------------|--------------|-------------------------------------|----------------------------|---------------------------------|---------------|--------|--------------|---------------|--------------|----------|------------------|----------------|--|
| Item ID:<br>Revision ID:       | D3161-9      |                                     | esi.                       | Accept                          | *N900         | 040    | 100          | <b>)</b> *    | Setup S      | Start    | *N:              | S1*            |  |
| Item Name:                     | Hinge 17.0"  |                                     |                            |                                 |               | O      |              |               | \$           | Stop     | *N!              | S2*            |  |
| Start Date:                    | 11/21/13     | Start Qty: 2.00                     | *2*                        |                                 | Cust Item     |        |              |               |              |          |                  |                |  |
| Required Date:                 | : 11/21/13   | <b>Req'd Qty:</b> 2.00              | *2*                        |                                 | Customer:     |        |              |               | •            |          |                  |                |  |
| Reference:                     |              |                                     |                            |                                 |               |        |              |               |              | <b>.</b> |                  |                |  |
| Approvals:                     | Process Plan | 1: <u>ML</u> J                      | Date: 13-11-22             | Tooling:                        | D             | oate:  |              | ]             |              | Start    | *N               | R1*            |  |
| *                              |              |                                     | Date:                      | SPC (Y/N):                      | Date:         |        | ;            | Stop          | *NR2*        |          |                  |                |  |
| Sequence ID/<br>Work Center I  |              | Operation<br>Description            |                            | Set Up/<br>Run Hours            | Tool ID       | Tool # | Plan<br>Code | Accept<br>Qty | Rejec<br>Qty |          | Reject<br>Number | Insp.<br>Stamp |  |
| Draw Nbr                       | Revi         | sion Nbr                            |                            |                                 |               |        |              |               |              |          |                  |                |  |
| D3161                          | Rev          | A2                                  |                            |                                 |               |        |              |               |              |          |                  |                |  |
| *100°                          |              | Small Fab                           |                            | 0.00                            |               |        |              | De            | -            |          |                  | Blub           |  |
| Small Fab                      |              | <b>Memo</b><br>(1) 72" Hin<br>D3161 | ge makes (4) D3161-9 parts | 0.00<br>at 17" longCut to lengt | th as per Dwg |        |              |               |              |          |                  |                |  |
| 110                            |              | QC5- Inspect part comp              | oleteness to step on W/O   | 0.00 DAS                        |               |        |              | $\sim$        |              |          |                  |                |  |
| *110*<br>QC<br>Quality Control |              | Memo                                |                            | 0.00                            | _             |        |              | _ <b>V</b>    | <u> </u>     |          |                  |                |  |

120

Identify as per dwg & Stock Location: 5703) 0.00

\*120\* Packaging

Memo

0.00

2x 28 13-11-26 9-89

Packaging

DAS 36 9-89

DQA: Yes / No **WORK ORDER NON-CONFORMANCE / UPDATE** NCR: QA Closed: Date: **AGAINST DEPARTMENT/PROCESS** DISPOSITION Work Order: Skid-tube Engineering Crosstube Water Jet Rework Machining Prod. Eng. Coor. Quality Part No. Small Fab Scrap Thermoforming Finishing Rec/Store/Packaging Other Use-as-is NCR No. Work Order Update Large Fab Composite Supplier Description of work order update Sign & Action Root Initial **Chief Eng** Verification Cause Date Step Qty or Non-conformance Description Date QC Inspector Doc/Data Equip/Tooling Operator Material Setup Other **Process** Supplier Training Unapproved **FAULT CATEGORY Landing Gear** General Bending Bend Grain Ovalized Pressure/Forced Centre Not Concentric to O/S BOM/Route Hardware Over/Under tolerance Temperature/Cure Broken/Damaged Cracks Inspection Incomplete Part Incorrect Weld Wrong Stock Pulled Crushed/Crimped Burrs Instructions Incomplete/Unclear Part Lost/Missing Cuffs Maintenance Contamination Part Moved Heat Treat Countersink Mislabeled Positioned Wrong Inspection Strip in Tube Cut Too Short Misread Power Loss/Surge Other **Drill Holes** Offset Ripples in Bend

**Out of Calibration** 

Out of Sequence

**Outside Dimensions** 

Date:

**Turning Sequence** 

Wave/Twist in Tube

**Torque Waves in Extrusion** 

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

| Work Order ID         | 10962 |
|-----------------------|-------|
| November-21-13 2:44:0 | 9 PM  |

Quality Control

| Work Order ID 109621  November-21-13 2:44:09 PM |                     |  |                      | *109                         | 3621*                    |            |              |               | ·              |      |               | Page 2     | 2   |
|---|---------------------|--|----------------------|------------------------------|--------------------------|------------|--------------|---------------|----------------|------|---------------|------------|-----|
| Item ID: Revision ID: Item Name:                | D3161-9 Hinge 17.0" |  |                      | Accept                       | *N900                    | <b>040</b> | 100          | )* S          | etup Sta       |      | NS'           | -          | i : |
| Start Date:<br>Required Date:<br>Reference:     | 11/21/13            | Start Qty: 2.00<br>Req'd Qty: 2.00           | *2*<br>*2*           |                              | Cust Item I<br>Customer: | D:         |              |               |                |      | <b>U</b> ( )2 |            |     |
| Approvals:                                      | Process Pl          | an:  | Date:                | Tooling: SPC (Y/N):          |                          | ate:       |              | R             |                | on   | NR<br>NR:     |            |     |
| Sequence ID/<br>Work Center II<br>130<br>*130*  | D                   | Operation Description QC21- Final Inspection | - Work Order Release | Set Up/<br>Run Hours<br>0.00 | Tool ID                  | Tool #     | Plan<br>Code | Accept<br>Qty | Reject<br>Qty. | Numl |               | sp.<br>amp |     |
| QC:   |                     | Memo   |                      | 0.00                         |                          |            |              | 7///          | /              |      |               |            |     |

DQA: Date: **WORK ORDER NON-CONFORMANCE / UPDATE** NCR: Yes / No QA Closed: Date: **AGAINST DEPARTMENT/PROCESS DISPOSITION** Work Order: Skid-tube Crosstube Engineering Rework Water Jet Machining Small Fab Prod. Eng. Coor. Quality Part No. Scrap Thermoforming Finishing Rec/Store/Packaging Other Use-as-is Supplier Work Order Update Large Fab Composite NCR No. Description of work order update Action Sign & Initial Root or Non-conformance Chief Eng Description Date Verification QC Inspector Date Step Qty Cause Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved **FAULT CATEGORY Landing Gear** General Bend Ovalized Bending Grain Pressure/Forced BOM/Route Centre Not Concentric to O/S Hardware Over/Under tolerance Temperature/Cure Broken/Damaged Cracks Inspection Incomplete Part Incorrect Weld Crushed/Crimped Burrs Instructions Incomplete/Unclear Part Lost/Missing Wrong Stock Pulled Cuffs Contamination Maintenance Part Moved Heat Treat Countersink Mislabeled Positioned Wrong Power Loss/Surge Inspection Strip in Tube Cut Too Short Misread Other

Offset

**Out of Calibration** 

Out of Sequence

Outside Dimensions

**Turning Sequence** 

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

**Drill Holes** 

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

## **Picklist Print**

November-21-13 2:44:09 PM

Work Order ID:

109621

Parent Item:

D3161-9

Parent Item Name:

Hinge 17.0"

**Start Date:** 11/21/13

Required Date: 11/21/13

Start Qty: 2.00

Required Qty: 2.00

Comments:

IPP A04.08.24New IssueKJ/JLM

| Component Item ID/ Item Name  | Replacement Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location                        | Route<br>Seq ID             | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status    |
|-------------------------------|---------------------|---------------|-------------|---------------------|---|-----------------------------|--------------------|----------------|-------------|--------------|---------------|----------------|-----------|
| MS20257-3-7200<br>PIANO HINGE |                     | Purchased     | No          |                     |   | 100                         | f                  | 71.7237        | 1.65        | 3.3          | 13/11         | 26             | DAS<br>36 |
|                               |                     |               |             | <b>Location</b>     |   | Loc Qty                     | <u>Lo</u>          | c Code         |             |              | //            | •              | 9-89      |
|                               |                     |               |             |                     | 3960                                    | 71.7236838<br>2.2447368     |                    |                |             |              |               |                |           |
|                               |                     |               |             | m                   | 126275<br>127172 <del>-</del><br>127393 | 0.509842<br>32.969105<br>36 |                    |                | <i>3</i> .  | 3            |               |                |           |

DQA: Date: **WORK ORDER NON-CONFORMANCE / UPDATE** Yes / No NCR: QA Closed: Date: **AGAINST DEPARTMENT/PROCESS** DISPOSITION Work Order: Skid-tube Engineering Crosstube Water Jet Rework Machining Small Fab Prod. Eng. Coor. Quality Part No. Scrap Thermoforming Finishing Rec/Store/Packaging Other Use-as-is NCR No. Composite Supplier Work Order Update Large Fab Description of work order update Sign & Action Root Initial **Chief Eng** Description Verification QC Inspector Date Step Qtv or Non-conformance Date Cause Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved **FAULT CATEGORY Landing Gear** General Pressure/Forced Bend Ovalized Bending Grain BOM/Route Temperature/Cure Centre Not Concentric to O/S Hardware Over/Under tolerance

Inspection Incomplete

Maintenance

Out of Calibration

Out of Sequence

**Outside Dimensions** 

Mislabeled

Misread

Offset

Instructions Incomplete/Unclear

Part Incorrect

Part Moved

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Weld

Other

Wrong Stock Pulled

Broken/Damaged

Contamination

Countersink

**Cut Too Short** 

**Drill Holes** 

**Drawing** 

Finish

Folio

Burrs

Turning Sequence
Wave/Twist in Tube

Ripples in Bend

Cracks

Cuffs

Heat Treat

Crushed/Crimped

Inspection Strip in Tube

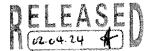
**Torque Waves in Extrusion** 

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

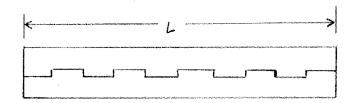




| DESIGN DR/ |               | DRAWN BY         | DART AEROSPACE<br>HAWKESBURY, ONTARIO, CAN |  |  |  |
|------------|---------------|------------------|--|--|--|--|
| CHEC       | KED<br>KED    | APPROVED         | DRAWING NO.                                | REV. A                                 |  |  |
| DATE       | DATE 02.04.24 |                  | TITLE HINGE                                | SCALE<br>NTS                           |  |  |
| Α          | 02            | .04.24           | NEW ISSUE                                  |  |  |  |
| AI         | # # C         | 04.02.27         | ADDED \$3161-5                             |  |  |  |
| <u>A2</u>  | 11-A          | 0 <b>4</b> 06 96 | 100 03161-7 & 03161-9                      | er e e e e e e e e e e e e e e e e e e |  |  |



| P/N     | LENGTH 'L' | DESCRIPTION                                  |
|---------|------------|--|
| D3161-1 | 13.5"      | HINGE (REPLACES MS20257-3-13.5 ON DZ183)     |
| D3161-3 | 15.0"      | HINGE (REPLACES MS 20257-3-150 ON D2950-041) |
| D3161-5 | 9.9"       | HINGE  |
| 03161-7 | 14,6"      | HINGE  |
| D3161-9 | 17.6       | HINGE  |



## NOTES:

1) MAKE FROM MS20257-3-7200 HINGE